



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0412; Product Identifier 2017-NM-180-AD; Amendment 39-19420; AD 2018-19-20]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2010-25-06, which applied to certain The Boeing Company Model 737-200, -300, -400, and -500 series airplanes. AD 2010-25-06 required repetitive inspections for cracking of certain fuselage frames and stub beams, and corrective actions if necessary. AD 2010-25-06 also provided for an optional repair, which terminated the repetitive inspections. For airplanes on which a certain repair was done, AD 2010-25-06 also required repetitive inspections for cracking of certain fuselage frames and stub beams, and corrective actions if necessary. This AD retains the actions required by AD 2010-25-06 and expands the inspection area. This AD was prompted by additional cracking found in areas not covered by the inspections in AD 2010-25-06. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0412.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0412; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Galib Abumeri, Aerospace Engineer, Airframe Section, Los Angeles ACO Branch, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: galib.abumeri@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2010-25-06, Amendment 39-16539 (75 FR 81409, December 28, 2010) (“AD 2010-25-06”). AD 2010-25-06 applied to certain Model 737-200, -300, -400,

and -500 series airplanes. The NPRM published in the Federal Register on May 15, 2018 (83 FR 22422). The NPRM was prompted by additional cracking found in areas not covered by the inspections in AD 2010-25-06. The NPRM proposed to retain the actions required by AD 2010-25-06 and expand the inspection area. We are issuing this AD to address fatigue cracking of certain fuselage frames and stub beams and possible severed frames, which could result in reduced structural integrity of the frames. This reduced structural integrity can increase loading in the fuselage skin, which will accelerate skin crack growth and could result in rapid decompression of the fuselage.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Effect of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing the supplemental type certificate (STC) ST01219SE does not affect the actions specified in the NPRM.

We agree with the commenter. We have redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD and added paragraph (c)(2) to this AD to state that installation of STC ST01219SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

Request to Clarify Compliance Language

Boeing asked that the compliance language in paragraphs (g), (h), (i), (j) and (k) of the proposed AD be changed since there are multiple conditions and compliance times specified in paragraph 1.E., "Compliance" of the referenced service information. Boeing asked that the wording in these paragraphs be changed from "at the applicable time"

specified in tables 1, 2, 3, 4, 5, and 9, respectively, to “at the applicable condition and time” specified in tables 1, 2, 3, 4, 5, and 9, respectively. Boeing stated that these changes would provide clarification.

Although we do not agree to revise this AD as requested by the commenter, we agree to clarify the compliance language. The phrase “at the applicable time” means the compliance time associated with a given condition, as specified in the applicable table in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017. We have not changed this AD in this regard.

Addition of Omitted Word

We inadvertently omitted the word “in” prior to the word “table” in the phrase “...the applicable time specified table...” in certain sentences in paragraphs (g), (h), (i), and (j) of the proposed AD. We have revised the applicable sentences in paragraphs (g), (h), (i), and (j) of this AD to read “...the applicable time specified in table....”

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017. This service information describes procedures for detailed and eddy current inspections of the fuselage frame and over wing stub beam at body station (BS) 616, BS 639, and BS 597 or BS 601, and buttock line (BL) 45.5 floor beam web at the BS 639 stub beam attachment, and related investigative and corrective actions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 67 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	Up to 67 work-hours X \$85 per hour = \$5,695 per inspection cycle	\$0	Up to \$5,695 per inspection cycle	Up to \$381,565 per inspection cycle

We estimate the following costs to do certain necessary repairs/replacements that would be required based on the results of the inspections. We have no way of determining the number of aircraft that might need these repairs/replacements:

On-condition costs

Action**	Labor cost	Parts cost	Cost per product
Repairs/replacements	Up to 76 work-hours X \$85 per hour = \$6,460	*	Up to \$6,460

*All required parts are supplied by the operator. This cost is minimal, and we have no way to determine what an operator would pay for these parts.

**We have received no definitive data that would enable us to provide cost estimates for certain other repairs specified in this AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2010-25-06, Amendment 39-16539 (75 FR 81409, December 28, 2010), and adding the following new AD:

2018-19-20 The Boeing Company: Amendment 39-19420; Docket No. FAA-2018-0412; Product Identifier 2017-NM-180-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2010-25-06, Amendment 39-16539 (75 FR 81409, December 28, 2010) (“AD 2010-25-06”).

(c) Applicability

(1) This AD applies to The Boeing Company Model 737-200, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE ([http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/ebd1cec7b301293e86257cb30045557a/\\$FILE/ST01219SE.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/ebd1cec7b301293e86257cb30045557a/$FILE/ST01219SE.pdf)) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a “change in product” alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by the detection of fatigue cracks at certain frame sections, in addition to stub beam cracking, caused by high flight cycle stresses from both pressurization and maneuver loads and additional cracking found in areas not covered by the inspections in AD 2010-25-06. We are issuing this AD to address fatigue cracking of certain fuselage frames and stub beams and possible severed frames, which could result in reduced structural integrity of the frames. This reduced structural integrity can increase

loading in the fuselage skin, which will accelerate skin crack growth and could result in rapid decompression of the fuselage.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Repetitive Inspections of Body Stations 616 and 639 Frames and Stub Beams and Corrective Actions

At the applicable time specified in table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017: Do a detailed or high frequency eddy current (HFEC) inspection for cracking of the body station (BS) 616 and 639 frames and stub beams and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(1) of this AD. Do all applicable related investigative and corrective actions before further flight. Thereafter, repeat the inspection at the applicable time specified in table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(h) Repetitive Post-Repair Inspections of Body Stations 616 and 639 Frames and Integral Stub Beams and Corrective Actions

At the applicable time specified in table 2 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017: Do the inspections required by paragraphs (h)(1) and (h)(2) of this AD; or the inspection required by paragraph (h)(3) of this AD; as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(1) of this AD. Do all applicable related investigative and corrective actions before further flight. Thereafter, repeat the inspection at the applicable time specified in table 2 of paragraph 1.E.,

“Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(1) Do a low frequency eddy current (LFEC) inspection of the web, and an HFEC inspection of the inner and outer chord common to the upper end fastener rows of the web splice doubler for cracking.

(2) Do the inspection specified in paragraph (h)(2)(i) or (h)(2)(ii) of this AD.

(i) Do a detailed inspection of the replacement frame section for cracking.

(ii) Do an HFEC and LFEC inspection of the replacement frame section for cracking.

(3) Do a detailed or HFEC inspection of the replacement stub beam for cracking.

(i) Repetitive Inspections of Buttock Line 45.5 Longitudinal Floor Beam Web at Body Station 639 Stub Beam Attachment and Corrective Actions

For Group 1 and Group 2 airplanes as identified in Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, at the time specified in table 3 or table 4, as applicable, of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(2) of this AD: Do the inspections required by paragraph (i)(1) and (i)(2) of this AD and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(1) of this AD. Do all applicable corrective actions before further flight. Thereafter, repeat the inspections at the time specified in table 3 or table 4, as applicable, of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(1) Do an open-hole HFEC inspection for cracking of the buttock line (BL) 45.5 longitudinal floor beam web at each fastener hole common to the stub beam attachment angle.

(2) Do an HFEC surface inspection for cracking of the BL 45.5 longitudinal floor beam web around the fastener head/tail at each fastener location common to the backup strap.

(j) Repetitive Post-Repair Inspections of Buttock Line 45.5 Longitudinal Floor Beam Web at Body Station 639 and Corrective Actions

For Group 2 airplanes as identified in Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, at the applicable time specified in table 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(2) of this AD: Do the inspections required by paragraphs (j)(1) and (j)(2) of this AD and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(1) of this AD. Do all applicable corrective actions before further flight. Thereafter, repeat the inspections at the applicable time specified in table 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(1) Do an open-hole HFEC inspection for cracking of the BL 45.5 longitudinal floor beam web filler at each fastener hole common to the stub beam attachment angle.

(2) Do an HFEC surface inspection for cracking of the BL 45.5 longitudinal floor beam web filler around the fastener head/tail at each fastener location common to the backup strap.

(k) Repetitive Inspections for Cracking of BS 616 Machined Stub Beam Upper Chord and Corrective Actions

For Group 2 and Group 3 airplanes as identified in Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, at the applicable time specified in table 9 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, except as required by paragraph (m)(2) of this

AD; do detailed and medium frequency eddy current subsurface inspections for cracking of the BS 616 machined stub beam upper chord, and all applicable corrective actions, except as required by paragraph (m)(1) of this AD. Do all applicable corrective actions before further flight. Thereafter, repeat the inspections at the applicable time specified in table 9 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(l) Credit for Previous Actions

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD, using Boeing Alert Service Bulletin 737-53A1254, Revision 1, dated July 9, 2009; or Boeing Alert Service Bulletin 737-53A1254, Revision 2, dated February 22, 2012.

(2) This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD, using Boeing Alert Service Bulletin 737-53A1254, Revision 2, dated February 22, 2012.

(m) Exceptions to Service Information Specifications

(1) Where Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, specifies to contact Boeing for repair instructions: Before further flight, do the repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(2) Where Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, specifies a compliance time “after the Revision 3 date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(n) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (o)(1) of this AD. Information may be emailed to:

9-ANM-LAACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2010-25-06 are approved as AMOCs for the corresponding provisions of Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017, that are required by paragraphs (g) and (h) of this AD.

(o) Related Information

(1) For information about this AD, contact Galib Abumeri, Aerospace Engineer, Airframe Section, Los Angeles ACO Branch, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: galib.abumeri@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(3) and (p)(4) of this AD.

(p) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Service Bulletin 737-53A1254, Revision 3, dated November 13, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 10, 2018.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.
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